

Alternative Package 1 – Express Bus/HOV/Operational Improvements - Operating Cost

Item	Unit	Quantity	Unit Cost	Total Cost
4.3 Expansion of Express Bus on Bay Bridge				
Annual Express Bus Operating Cost	Hours	256,100	\$90	\$23,049,000
A. Operating Cost Subtotal				\$23,049,000
B. Contingency (30%)				\$6,914,700
4.3 TOTAL COST (A + B)				\$29,963,700
5.0 BART Services Improvements				
BART Annual Operating Costs (See Manuel Padron Memo)	LS	1	\$5,100,000	\$5,100,000
A. Operating Cost Subtotal				\$5,100,000
B. Contingency (30%)				\$1,530,000
5.0 TOTAL COST (A + B)				\$6,630,000
7.1 ITS Improvements				
Annual ITS Operating Cost	LS	1	\$10,000	\$10,000
A. Operating Cost Subtotal				\$10,000
B. Contingency (30%)				\$3,000
7.1 TOTAL COST (A + B)				\$13,000
2.1.1 Westbound Grand Avenue On-Ramp – HOV Extension				
New Lane - Annual Maintenance Cost	LM	1	\$10,000	\$10,000
A. Operating Cost Subtotal				\$10,000
B. Contingency (30%)				\$3,000
2.1.1 TOTAL COST (A + B)				\$13,000
2.1.2 Westbound I-580 Left-Side HOV Lane Extension				
New Lane - Annual Maintenance Cost	LM	0.6	\$10,000	\$6,000
A. Operating Cost Subtotal				\$6,000
B. Contingency (30%)				\$1,800
2.1.2 TOTAL COST (A + B)				\$7,800
2.1.3 New Westbound Right Side HOV Structure Alongside I-580				
New Lane - Annual Maintenance Cost	LM	1.6	\$10,000	\$16,000
A. Operating Cost Subtotal				\$16,000
B. Contingency (30%)				\$4,800
2.1.3 TOTAL COST (A + B)				\$20,800
2.1.4 Westbound I-80 HOV Approach Improvement				
New Lane - Annual Maintenance Cost	LM	0.3	\$10,000	\$3,000
A. Operating Cost Subtotal				\$3,000
B. Contingency (30%)				\$900
2.1.4 TOTAL COST (A + B)				\$3,900
2.1.6 I-80 WB Approach to Maritime/Horseshoe Off-Ramp				
New Lane - Annual Maintenance Cost	LM	0.2	\$10,000	\$2,000
A. Operating Cost Subtotal				\$2,000
B. Contingency (30%)				\$600
2.1.6 TOTAL COST (A + B)				\$2,600
2.1.7 I-880 NB HOV Approach Extension to Market/Adeline				
New Lane - Annual Maintenance Cost	LM	2.7	\$10,000	\$27,000
A. Operating Cost Subtotal				\$27,000
B. Contingency (30%)				\$8,100
2.1.7 TOTAL COST (A + B)				\$35,100
2.2.3 Close SR 92 HOV Gap Hesperian to I-880				
New Lane - Annual Maintenance Cost	LM	1.5	\$10,000	\$15,000
A. Operating Cost Subtotal				\$15,000
B. Contingency (30%)				\$4,500
2.2.3 TOTAL COST (A + B)				\$19,500

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Item	Unit	Quantity	Unit Cost	Total Cost
4.1 SMB – Express Bus Service with Park and Ride (Hesperian) and HOV Ramps				
Annual Express Bus Operating Cost	Hours	71,448	\$90	\$6,430,320
Park and Ride Lot - Annual Maintenance Cost	LS	1	\$10,000	\$10,000
New Lane - Annual Maintenance Cost	LM	1.3	\$10,000	\$13,000
A. Operating Cost Subtotal				\$6,453,320
B. Contingency (30%)				\$1,935,996
4.1 TOTAL COST (A + B)				\$8,389,316
2.3.4 SR 84/I-880 HOV Flyovers				
New Lane - Annual Maintenance Cost	LM	1.3	\$10,000	\$13,000
A. Operating Cost Subtotal				\$13,000
B. Contingency (30%)				\$3,900
2.3.4 TOTAL COST (A + B)				\$16,900
4.2 Dumbarton Express Bus Service with Park and Ride (Newark) and HOV Ramps				
Annual Express Bus Operating Cost	Hours	75,400	\$90	\$6,786,000
Park and Ride Lot - Annual Maintenance Cost	LS	1	\$10,000	\$10,000
New Lane - Annual Maintenance Cost	LM	1.3	\$10,000	\$13,000
A. Operating Cost Subtotal				\$6,809,000
B. Contingency (30%)				\$2,042,700
4.2 TOTAL COST (A + B)				\$8,851,700
TOTAL ALTERNATIVE 1 ANNUAL OPERATING COST				\$53,967,316

EA = Each, LS = Lump Sum, LF = Linear Foot, SF = Square Foot, LM = Lane Mile, TM = Track Mile

Alternative Package 2 – Bay Bridge Corridor Rail - Operating Cost

Item	Unit	Quantity	Unit Cost	Total Cost
3.4 San Francisco – Oakland BART				
BART Operating Costs (See Manuel Padron Memo)	LS	1	\$102,800,000	\$102,800,000
A. Operating Cost Subtotal				\$102,800,000
B. Contingency (30%)				\$30,840,000
3.4 TOTAL COST (A + B)				\$133,640,000
3.7 San Francisco – Oakland Conventional/High Speed Rail				
Maintenance of Trackage	TM	10.8	\$15,000	\$162,000
Operating and Maintenance Cost (Vehicles)	Train Miles	274,560	\$50	\$13,728,000
A. Operating Cost Subtotal				\$13,890,000
B. Contingency (30%)				\$4,167,000
3.7 TOTAL COST (A + B)				\$18,057,000
TOTAL ALTERNATIVE 2 ANNUAL OPERATING COST				\$151,697,000

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Alternative Package 3 – Hayward/San Mateo Corridor Improvements - Operating Cost

Item	Unit	Quantity	Unit Cost	Total Cost
2.2.1 – Phase I - Install Reversible Lanes on High Bridge & Restripe Causeway Section				
Median Barrier Annual Operating Cost	LS	1	\$500,000	\$500,000
A. Operating Cost Subtotal				\$500,000
B. Contingency (30%)				\$150,000
2.2.1 TOTAL COST - Phase I (A + B)				\$650,000
2.2.1 – Phase II – Widen Causeway Bridge and High Bridge				
Causeway Annual Maintenance	LM	4.4	\$100,000	\$440,000
High-Bridge Annual Maintenance	LM	9.1	\$100,000	\$910,000
A. Operating Cost Subtotal				\$1,350,000
B. Contingency (30%)				\$405,000
2.2.1 TOTAL COST - Phase II (A + B)				\$1,755,000
2.2.4 Improve I-880/SR 92 Interchange				
New Lane - Annual Maintenance Cost	LM	4	\$10,000	\$40,000
A. Operating Cost Subtotal				\$40,000
B. Contingency (30%)				\$12,000
2.2.4 TOTAL COST (A + B)				\$52,000
2.2.5 Widen I-880 between SR 238 and SR 92				
New Lane - Annual Maintenance Cost	LM	7.6	\$10,000	\$76,000
A. Operating Cost Subtotal				\$76,000
B. Contingency (30%)				\$22,800
2.2.5 TOTAL COST (A + B)				\$98,800
2.2.6 Improve I-880/SR 238 Interchange				
New Lane - Annual Maintenance Cost	LM	1.3	\$10,000	\$13,000
A. Operating Cost Subtotal				\$13,000
B. Contingency (30%)				\$3,900
2.2.6 TOTAL COST (A + B)				\$16,900
TOTAL ALTERNATIVE 3 ANNUAL OPERATING COST				\$2,572,700

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Alternative Package 4 – New Mid-Bay Bridge - Operating Cost

Item	Unit	Quantity	Unit Cost	Total Cost
3.2 New Mid-Bay Bridge SR 238 to I-380				
Bridge Annual Maintenance Cost	LM	98	\$100,000	\$9,800,000
Toll Plaza Annual Operating Cost	Vehicles	12,879,800	\$0.265	\$3,413,147
Express Bus Operating Cost	Hours	148,824	\$90	\$13,394,160
Western Approach Roadway Annual Maintenance Cost	LM	20	\$10,000	\$200,000
Eastern Approach Roadway Annual Maintenance Cost	LM	2	\$10,000	\$20,000
I-238/I-880 Improvements Maintenance Cost	LM	12	\$10,000	\$120,000
A. Operating Cost Subtotal				\$26,947,307
B. Contingency (30%)				\$8,084,192
TOTAL ALTERNATIVE 4 ANNUAL OPERATING COST				\$35,031,499

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Alternative Package 5 – Reconstruction of Dumbarton Rail Bridge - Operating Cost

Item	Unit	Quantity	Unit Cost	Total Cost
3.6 Reconstruction of Dumbarton Rail Bridge with Commuter Rail Service				
Vehicle Maintenance and Operating Cost	Train Miles	341,952	\$50	\$17,097,600
A. Operating Cost Subtotal				\$17,097,600
B. Contingency (30%)				\$5,129,280
C. Vehicle Operations Cost Subtotal (A + B)				\$22,226,880
Costs from JPB Study				
Operating Cost (Swing Bridges)*	LS	1	\$229,000	\$229,000
Operating Cost (Stations)*	LS	1	\$210,000	\$210,000
Maintenance of Trackage*	LS	1	\$349,000	\$349,000
D. JPB Study Subtotal				\$788,000
TOTAL ALTERNATIVE 5 ANNUAL OPERATING COST (C + D)				\$23,014,880

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Alternative Package 6 – Dumbarton Corridor Highway Improvements - Operating Cost

Item	Unit	Quantity	Unit Cost	Total Cost
2.3.1 East Palo Alto/University Avenue Bypass – Phase I				
New Lane - Annual Maintenance	LM	5	\$10,000	\$50,000
A. Operating Cost Subtotal				\$50,000
B. Contingency (30%)				\$15,000
2.3.1 TOTAL COST - Phase I (A + B)				\$65,000
2.3.1 East Palo Alto/University Avenue Bypass – Phase II				
New Lane (At-Grade) Annual Maintenance	LM	2.7	\$10,000	\$27,000
New Lane (Bridge/Tunnel) Annual Maintenance	LM	2.7	\$10,000	\$27,000
A. Operating Cost Subtotal				\$54,000
B. Contingency (30%)				\$16,200
2.3.1 TOTAL COST - Phase II (A + B)				\$70,200
TOTAL ALTERNATIVE 6 ANNUAL OPERATING COST				\$135,200

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